Independence — Athens of Early Texas — *E. M. Schiwetz*

The HUMBLE WAY

SEPTEMBER-OCTOBER, 1951

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VOL. VII No. 3

Oil Progress Means Better Living

OIL has changed our whole way of life. That was the conclusion Americans drew during Oil Progress Week, October 14-20, as they reflected on the great contributions oil has made to economic progress in this country.

It was a rather obvious conclusion. One had only to contrast our lives with oil to life without it. Back in 1900, when the oil industry was still young, our grandfathers worked long hours at jobs made all the more difficult because they had relatively few machines. They produced far less than we do today, and enjoyed fewer of what we now take for granted as the ordinary conveniences and comforts of life. In 1900, oil production in the U. S. was only about a tenth of a gallon of oil per person per day.

Today, oil production in the U. S. is *twenty times as much per person* as in 1900—about two gallons of oil per day for every man, woman, and child in this country. That tremendous increase has had far-reaching effects on our way of life.

Today, we can get in an automobile, a bus, a powerful Diesel train, or an airplane and go wherever we wish in speed and comfort—we no longer have to wonder "what's on the other side of the mountain." With powerful engines and the oil to fuel and lubricate them, distance barriers have disappeared.

Oil progress has broken down other barriers, too. We can send a letter across the continent in a matter of hours; we can turn a valve and heat our homes without tossing logs on a fire; we enjoy more goods with less work—all the result of machines and the fuel energy to run them. Thanks to oil, we have more of everything we need for better living; more food, medicines, clothing, and shelter.

Oil progress means a greater measure of national security, too, with American oil fighting on the side of freedom. Modern military might depends to a large extent on oil—oil to fuel and lubricate ships and tanks and trucks; oil to make rubber tires and tubes that carry fighting vehicles into battle; oil to make synthetic toluene used in explosives; oil to make high octane gasolines and the special lubricants and jet fuels used by our Air Force; oil for the jellied gasoline used in deadly Napalm bombs; oil put to a thousand other uses by the weapons and machines of war.

How has oil made all this progress which has meant so much to America in peace and war? There are at least three big reasons: Research, competition, and the investment of tremendous sums of money in equipment and properties.

Research has opened up new uses for oil which would have sounded like fairy tales to our grandfathers. To name only a few, whole families of new fibers and fabrics, plastics and building materials, insecticides and fertilizers, medicines and chemicals now come from oil to enrich our lives and make us more comfortable. Research in oil is like compound interest, with the results of past discoveries aiding in making new discoveries.

Competition affects every phase of the oil industry's operation. There are already thousands of operators in the industry, and the field is always wide-open. Anyone may enter at any time. It is the struggle between companies for customer approval that has accounted for so much of the industry's expansion and improvement. Consumers benefit from this constant competition by getting new and better oil products at reasonable prices.

Investment is high in the oil business. It has to be; the risks are high, and equipment is expensive. In all, the industry has an investment exceeding $30 billion to carry on its business. Last year alone, more than $2 billion was invested in this manner. Expansion like that means that we will have oil needed now and in the years ahead.

The United States is now using oil at the rate of more than two billion barrels a year. That means that drilling must go on night and day, with thousands of drilling rigs constantly at work. Last year, some 43,000 wells were drilled in this country, and a like number is scheduled for this year. And instead of shallow wells such as the 69½-foot hole drilled by Col. E. L. Drake in the first discovery of oil 92 years ago in Pennsylvania, many modern wells must go down as far as 10,000 and 12,000 feet.

In spite of ever-mounting production to keep up with demand, our proved reserves of oil are increasing. At the end of 1950, proved reserves stood at 30 billion barrels the highest reserves in history.

That speaks eloquently for the performance of a competitive industry which has done so much to raise our standard of living and give us more progress in the past 50 years than the world made during the preceding 19 centuries.

Mud gun jets a stream of fluid into slush pit to help keep viscous mixture agitated. (See "Its Name Is Mud," Page 4.)

Football takes over on fall week-ends in Texas, and Humble broadcasts are heard by millions of Texans. This year, the Company is treating Southwest Conference fans to the biggest, busiest season yet, and is adding telecasts as an extra treat.

FOOTBALL IN YOUR LIVING ROOM

HUMBLE is treating Southwest Conference football fans to the biggest and busiest season in the Company's 17-year history of covering the games.

Some 45 games involving Conference teams at home and away will be aired before the 1951 season is written into the record books. And this year something extra has been added. On Sunday afternoons in areas served by television stations in Texas, fans are enjoying a film telecast of a complete game played just the day before.

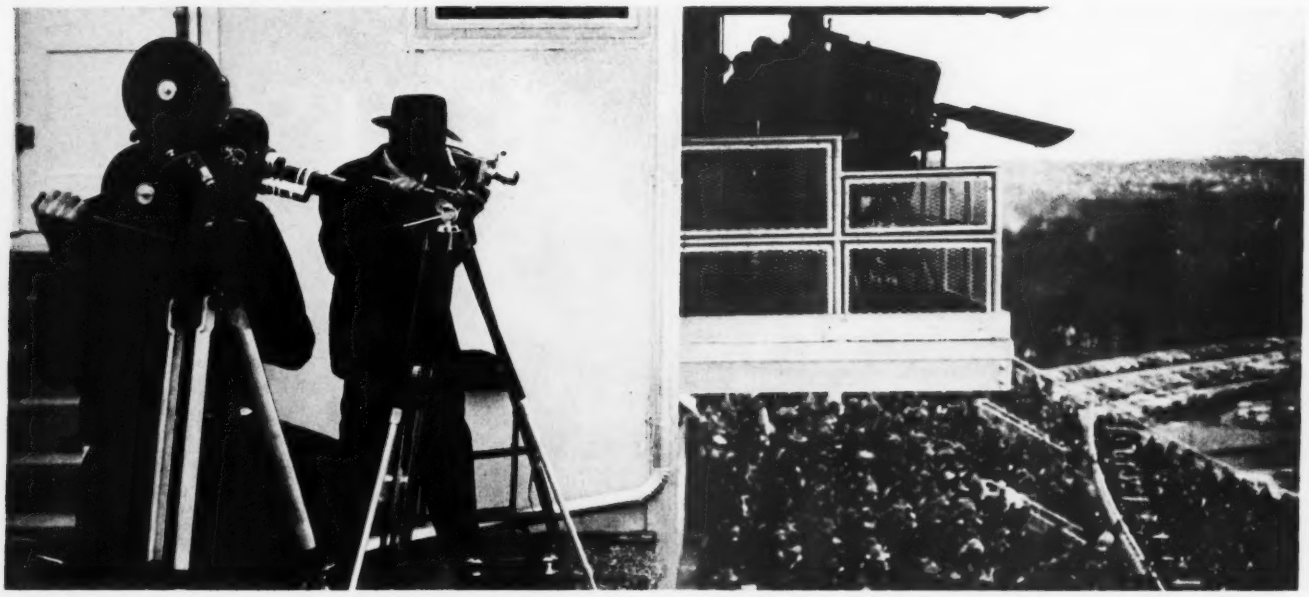
To present these films, Humble arranges for camera crews to rush pictures to the developing laboratories immediately after the game. Working on split-second schedules, the films are processed, edited, and printed; then rushed to the various TV stations in time for the Sunday afternoon performance. Wherever possible, the film telecast is narrated by the same announcer who called the game on Saturday.

This year, as before, live telecasts of certain "sold out" games are being brought right into the living rooms of video fans.

The biggest Saturday of a big season was October 13, when no less than six games went out over the airways—Baylor-Arkansas, SMU-Notre Dame, and Texas-Oklahoma during the afternoon; Rice-Navy, Texas A&M-Trinity, and TCU-Texas Tech that night. Humble announcers must have breathed easier with that week-end behind them!

The same top-notch crew of radio announcers and engineers are handling the Humble football broadcasts as in previous years. Kern Tips, Charlie Jordan, Ves Box, and Bill Michaels handle most of the play-by-play, ably supported by other radio personalities who have become identified with the football broadcasts.

In charge of the TV work are announcers, directors, cameramen and others familiar to video fans at stations



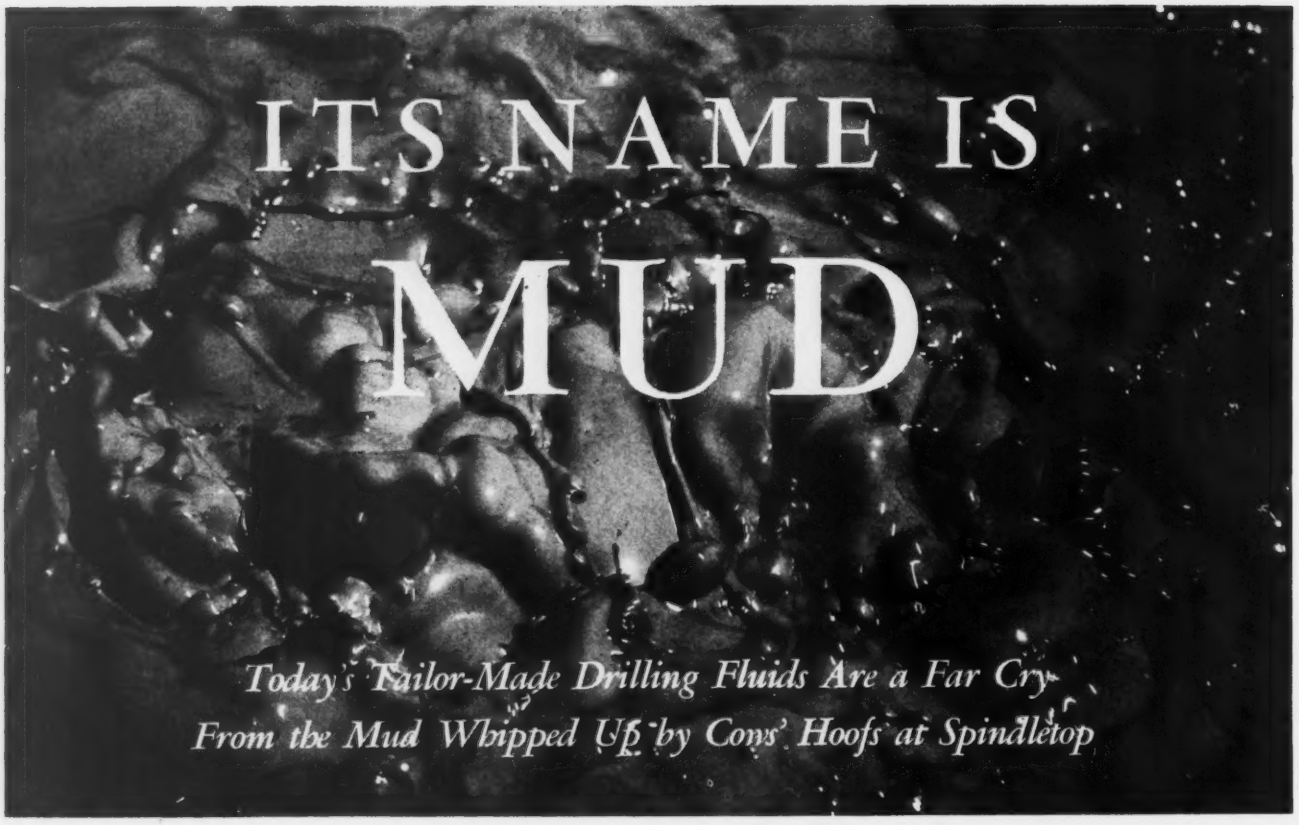
Cameramen at left are busily at work making movies of the big game, which will be shown over some Texas television stations the next day. At right, in the same photograph (though it really looks like two) TV cameraman works on a live telecast of game.

WFAA-TV and KRLD-TV, Dallas; WBAP-TV, Fort Worth; WOAI-TV and KEYL, San Antonio; and KPRC-TV, Houston.

Between Saturdays this season, thousands of football fans throughout the state keep their sports appetite whetted by viewing the Humble movie, "Southwest Conference Football Highlights, 1950." For the past several years, the Company has presented these popular movies, consisting of great plays from Southwest Conference games the season before. The film is much in demand; last year almost half a million people saw it and thrilled again to outstanding plays of a great season. Fifty prints of the 1950 edition are now in circulation, and attendance at the "Highlights" showings is expected to exceed last year's whopping total.

Texas is a big state, and Texans love their football. Wherever a Texan goes on a football day, he is within range of a Humble broadcast. And, if he lives within range of a television station, he can treat himself to an extra hour of football on Sunday afternoon. The game is just as far away as the nearest television set.

Football fans who can't make the big game on Saturday can stay at home and see it on their TV sets on Sunday afternoon. Films made of game on Saturday are rushed to the laboratory, printed, edited, and processed in short order for Sunday show.



ITS NAME IS MUD

Today's Tailor-Made Drilling Fluids Are a Far Cry From the Mud Whipped Up by Cows' Hoofs at Spindletop

MUD is so common and prosaic an item that it has received few plaudits outside of specialized fields. It has long been prized by indolent shoats, beauty shop alchemists and victims of gout. With most everyone else, it has been smeared with a certain lack of popularity. Generations of moms have reached for the switch when the family cowboy tracked it in the kitchen. Soldiers by the millions have slogged through it to the rhythm of sulphuric mutterings. Political campaigners have indignantly accused their opponents of slinging it. Prestigewise, in short, its name is mud.

Not so in the oil industry. Mud made its formal debut at Spindletop, and in the 50 years since then its social standing has been steadily on the rise.

Mud is a catchall term for the fluid used in drilling wells with a rotary rig. Pushed along by powerful pumps, it flows in continuous circuit from slush pit to well bottom and back again. After traveling downward inside the drill pipe, it exits through apertures in the bit and then surges back to the surface in the channel between drill pipe and well wall. Its usual speed is about three feet a second.

How important is mud? Well, without it—or a good substitute—drilling for oil would be difficult, dangerous and, in some formations, downright impossible. Cuttings would ball up in the hole and freeze the drill pipe. Well walls would have a tendency to cave. Frictional wear on pipe and bit would be ravaging. In high pressure areas, blowouts would take a heavy toll.

With the mud system in good working order, many potential trouble spots are smoothly hurdled. Cuttings ride up as easily as if they were on an escalator. The spinning drill pipe plasters the well wall with mud to cut down on the cave-in hazard. Lubrication comes into play, reducing wear and tear on the drilling tools. And the sheer weight of the mud column can effectively seal off formation pressures which might otherwise blow a rig sky-high.

As a drilling aid, mud didn't spring into the world full grown. It just sort of grew like Topsy.

Back around 1882, two brothers named Baker had introduced America to the rotary rig while drilling water wells in the Dakota Territory. Instead of bailing out their cuttings, as the cable-tool operators did, the Bakers flushed theirs to the surface by pouring water down the drill pipe. This worked, after a fashion, but it was not long before some unsung hero got the idea of harnessing the power of a nearby windmill to force water down the drill stem under pressure.

Thus appeared on the scene the first drilling fluid (water is still a favorite under the right conditions) and the first slush pump.

The rotary rig cut a few more of its drilling teeth during the small Corsicana oil boom of the middle 1890's. By then the steam engine had replaced the windmill as a power source for the pumps, and mud—a natural by-product of native clays and the water which flushed out the cuttings—was beginning to be vaguely appreciated.

Synthetic fluids were also beginning to attract the attention of inventors. By the turn of the century, eleven patents—seven foreign and four American—had been issued to cover various drilling processes, fluids and additives.

It was at Spindletop, however in the winter of 1900, that mud came into its own. Tricky subterranean quicksands had made previous efforts to tap the area a driller's nightmare. Realizing

their main chance rode on a judicious use of mud, the Hamill brothers, drillers of Captain Lucas' historic well, switched from water to the heavier fluid.

Few knew it at the time, but the gasoline age moved considerably nearer the day Curt Hamill plowed up the water pit and then drove in several head of cattle. Churning hoofs mixed the viscous batter which became the oil industry's open-sesame.

For many years after Spindletop, the use of mud remained more of an art than a science. There were only two rough classifications for mud in those early days: thick and thin. Drillers mixed it by guess and by gosh, and their mistakes often resulted in pyrotechnic displays—blowouts and wild wells.

Gradually, though, the industry built up its dossier on mud. Humble, for instance, started its mud research program in 1929, and it is still a high priority project. Other companies also took mud into the laboratory. And production specialists — formerly called mud engineers but now known, because of their expanded duties, as drilling practices engineers—were assigned to plan a regimen of mud for each well.

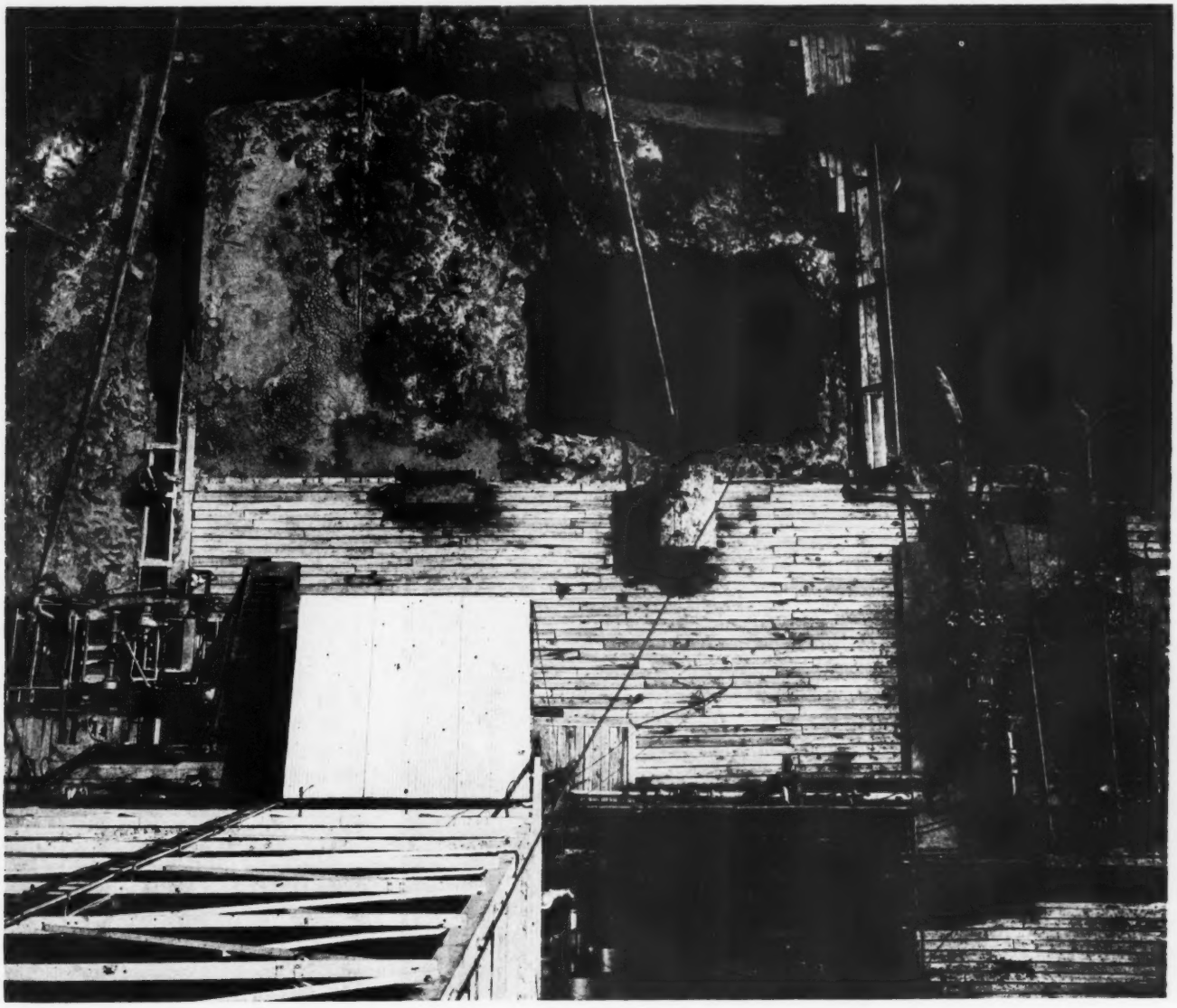
By 1936, the world's patent literature was sprinkled with references to mud and other drilling fluids. America led the field with 90 patents. The Germans, on the other hand, had only 14, the French 13, the Dutch 10, the British six, and the Russians three.

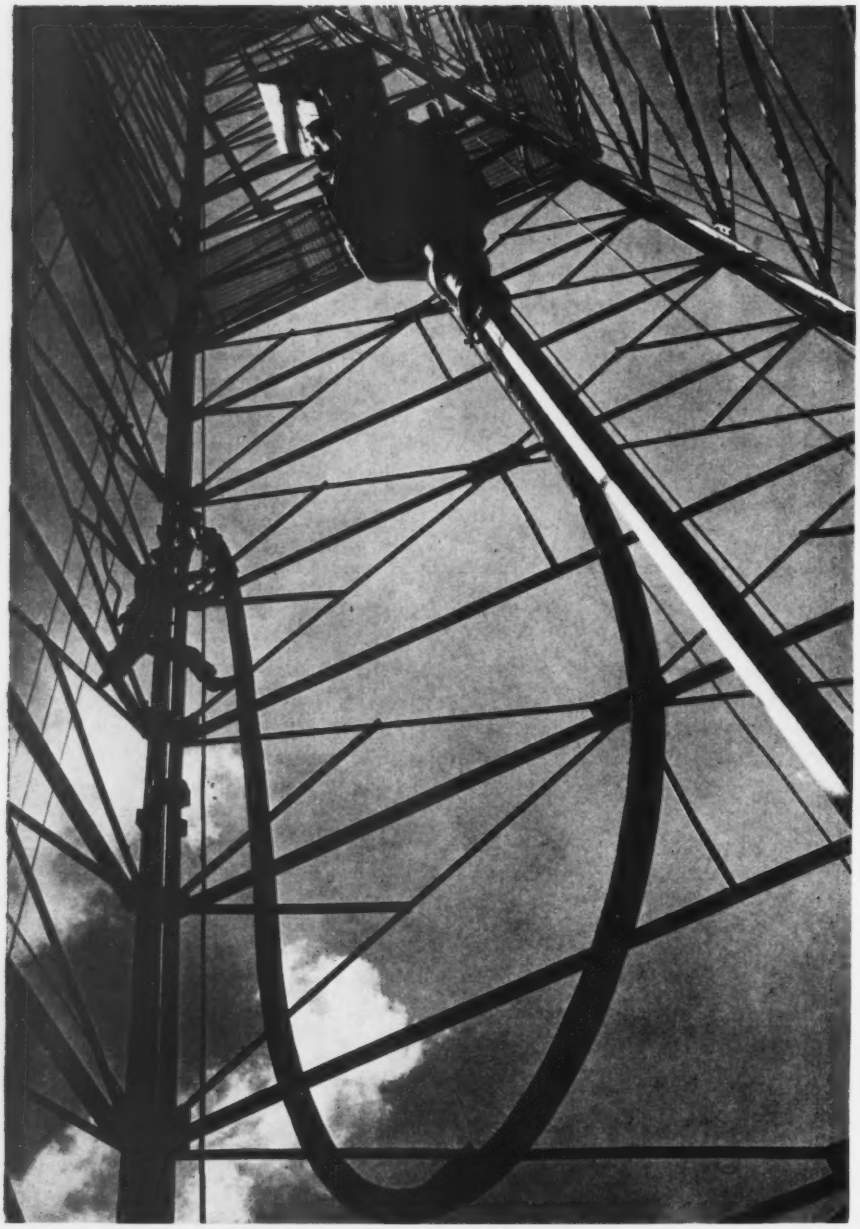
Mud properties, additives, testing equipment, circulating systems — all have now crossed the line separating guesswork from science. But still the search for better mud goes on.

Pioneer drillers, visiting a modern rig for the first time, would hardly recognize the mud of today. Instead of looking like gully water after a heavy downpour, it may be red or purple in hue. And it may contain, at one time or another, such minerals as barite or bentonite, such chemicals as lye and tannin, pantry staples like starch and baking soda, farm products such as hay and cottonseed hulls, or such odds and ends as sawdust, cellophane flakes and chopped feathers.

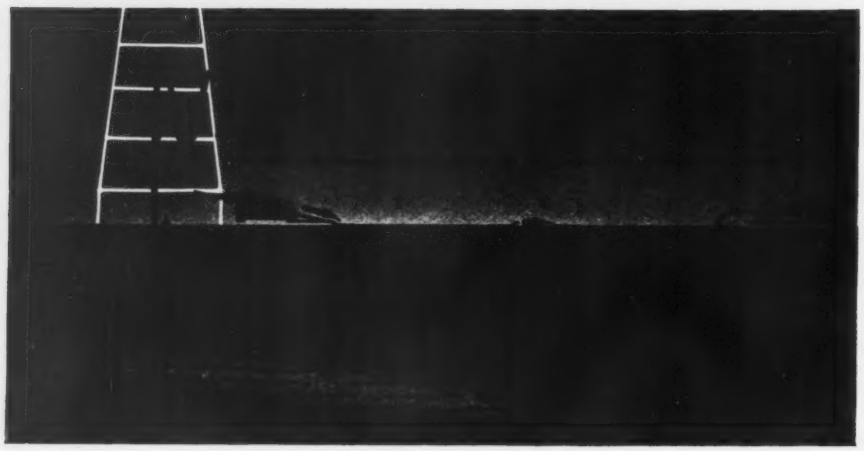
These strange ingredients—additives, the engineers call them—may look as if

Spread out on one side of derrick is aboveground portion of well's circulatory system. Shown in color is mud's flow: Leaving well at left, it surges through shale-shaker, mud ditch, settling pit, and finally into slush pit at far right.





A graceful swoop of mud hose carries drilling fluid from standpipe (attached to derrick leg at left) into the hollow swivel. The mud then flows down kelly joint into well. Below is a diagram showing usual circulatory system of a well.



they belong in the recipe for a witch's brew. But each changes the mud in one way or another, enabling it to solve problems which could thwart successful completion of the well.

Take the problem of abnormally-high formation pressures. If the density (weight) of your mud is great enough, these pressures will be exceeded by the pressure of the mud column and there can be no blowout. Water weighs barely more than eight pounds a gallon—much too light to do the job by itself. Even a clay-water mud, which can reach 11.5 pounds a gallon before becoming too viscous to be pumpable, may not be heavy enough. In that case, a weighting material—usually barite—will be added to give more heft to the mud. Weights as high as 20 pounds per gallon, which is as heavy as earth itself, may thus be attained.

Then there is the filtration problem. Some geologic formations act as blotters: Spread mud on them and they draw out the water. This can make the wall cake too thick, the mud too viscous for effective circulation. Or it may cause a "water block" in a potentially productive sand. In other words, the flow of oil—often a touch-and-go affair—may be completely cut off. Bentonite, starch and cellulose are among the additives which help hold down filtration.

Lost returns are another common headache. Instead of returning topside, the mud may flow off into underground fissures or cavities or into soft, incompetent formations called "thief sands." That's when fibrous or bulky additives come into play: beet pulp, straw, sawdust, cellophane, special cements, tattered sacks, dozens of other curious items. These will usually plug all leaks.

If mud circulation stops for any other reason—a pump failure, for instance, the mud needs to have good thixotropic properties. This jawbreaker term simply means that the mud remains a fluid as long as it is agitated but that it becomes a jelly-like mass when motion ceases. This ability of mud to gel keeps cuttings from settling in the hole and freezing the drill pipe. Additives such as bentonites and caustic soda boost mud's thixotropic qualities.

Those are only a few of the many mud problems. There are others: Gas can infiltrate mud and cut its weight in half. Sand can make it dangerously abrasive. Salt may make it too viscous to pump. Heaving shale, which expands

rice-like when soaked with water, can block its circulation. In almost every case, however, the engineers can add here or take away there and keep the mud in good working condition.

Improvements in mud technology have not been limited to additives. During the past 20 years, dependable instruments have been developed for testing all the important mud properties: weight, viscosity, filtration rate, gel strength, acidity or alkalinity, and sand or salt content. The derrickman makes periodic tests with some of these instruments right at the rig.

Other refinements have been made. Mechanical devices are used in mixing the mud. Vibrating screens, sometimes called shale-shakers, have almost replaced the old settling pit as a means of removing cuttings. Large centrifuges, quite similar to a cream separator, are used to recover expensive weighting materials, remove harmful ingredients.

Even mud itself has had to yield to progress. Wells are occasionally drilled now with such substitutes as oil, natural gas, and (experimentally) compressed air.

An interesting example of modern mud technique may be observed in the current Spraberry Sand operations in West Texas. In the rocky upper formations, water is being used as the drilling fluid. When the bit reaches the porous middle formations, mud replaces the water. And finally, since the tight Spraberry Sand is very susceptible to water damage, oil is used for drilling the last few hundred feet.

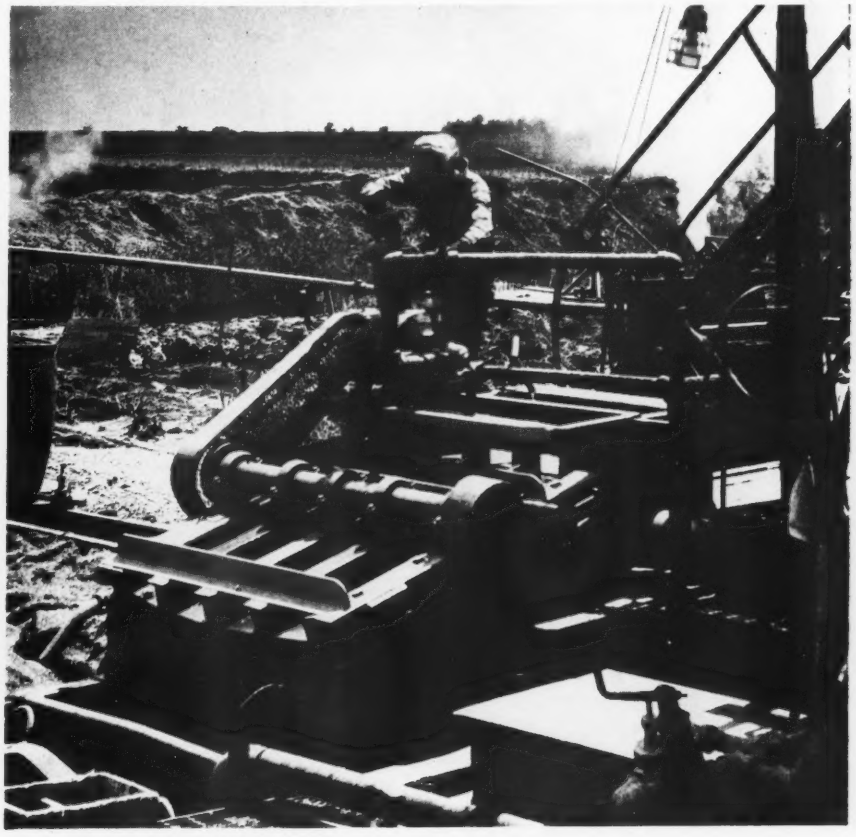
Economically speaking, mud is no longer dirt cheap. Although some mud costs may amount to only a few nickels per foot drilled, an ill-starred well may require more than 100,000 sacks of weighting material plus large quantities of chemicals and clays. Mud costs may then soar to $200 a foot. That's why mud research is a good investment.

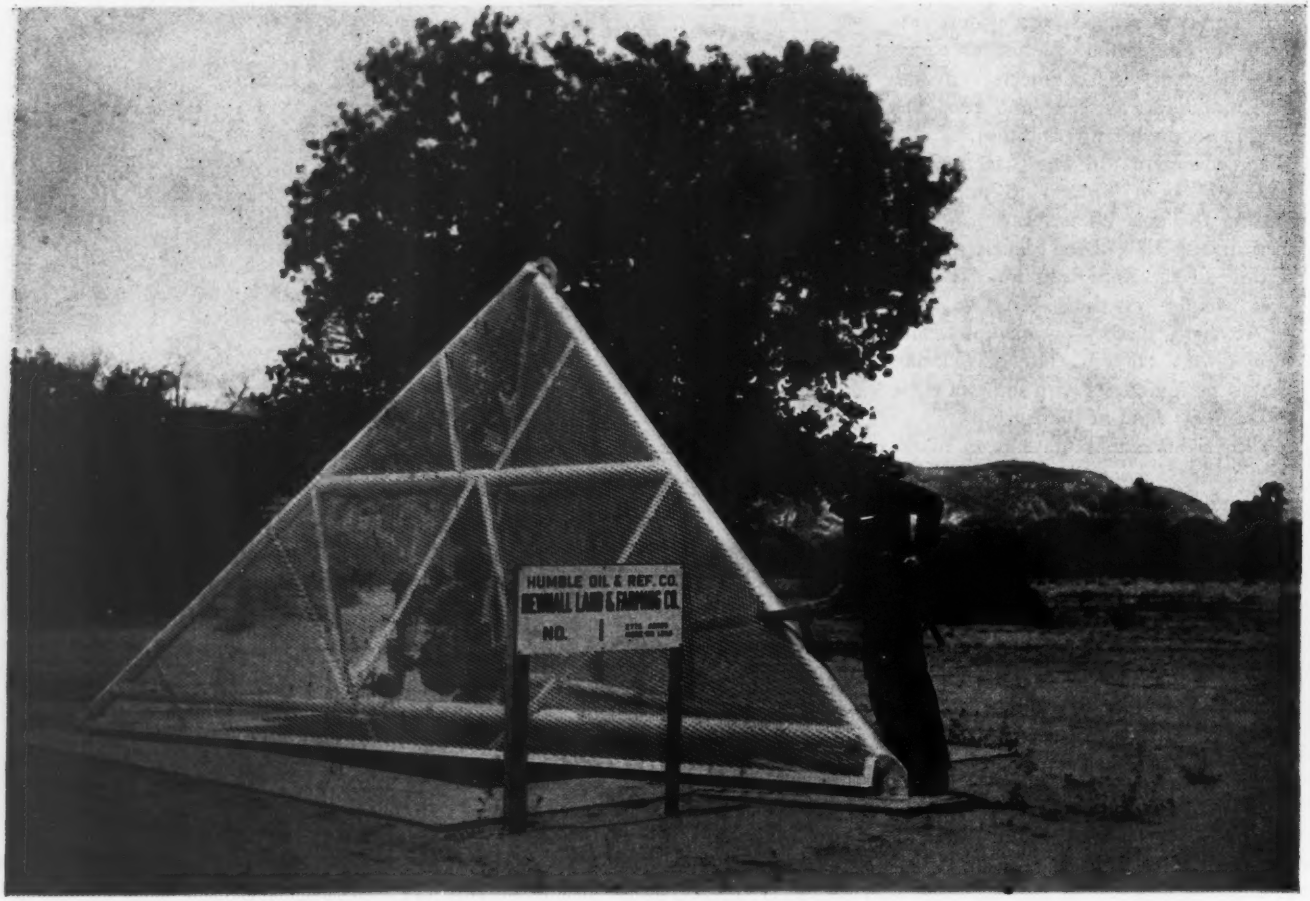
A recent visitor to a Humble rig, seeing mud for the first time, said in a rather surprised tone: "Why, this stuff is closer to muddy water than it is to watery mud!"

Maybe so, but however you describe it, mud is a vital part of the oil business. It is, indeed, just about as essential to a rotary rig as blood to the human body.

So the next time a splatter of mud ruins a new shine, don't wince. That mud's first cousin is helping to keep your gasoline tank full and brimming.

Derrickman pours weighting material into mud-mixing machine located on edge of slush pit. This is starting point for mud's tortuous journey to well-bottom and back again. Below is a shale-shaker, the vibrating screen which removes cuttings.





Discovery well in the Castaic Junction Field is in the dry Santa Clara river bed. Heavy steel lacework surrounding the Christmas tree is designed to protect the well in the event of a flood, from driftwood and debris carried by surging waters.

HUMBLE IN CALIFORNIA

"CALIFORNIA will be found to have more oil in its soil than all the whales in the Pacific Ocean."

With this bold statement Benjamin Silliman, Jr., professor of chemistry at Yale University, in 1864 aroused considerable interest in California's oil possibilities. Nor was the professor speaking in jest or with undue bravado. It was a calculated statement, backed by an educated nose. He felt certain that the first few breaths of air he drew into his lungs after leaving the boat at San Buena Ventura contained the telltale smell of crude oil. Hadn't he been conducting laboratory experiments with crude oil at Yale for 10 years? Didn't he know the odor of petroleum?

In subsequent weeks he roamed the hillsides and valleys of a large area around San Buena Ventura. He observed rock formations; he studied tar springs pointed out to him by natives; and he became thoroughly convinced. There was oil in quantity under the soil of California!

Eighty-four years and almost *eight billion barrels* later Humble geologists made an observation similar to that of the professor: there was still *more* oil to be found in California.

Preliminary geologic studies of the state had indicated that a comparatively thorough and diligent search for oil and gas had been carried on by the companies which had been operating in California for a number of years. But these studies also indicated that because of the complicated geologic conditions there was a distinct possibility that some of the structures already drilled might not be adequately tested, and that there still remained possibilities for the discovery of the stratigraphic or pinchout type of oil and gas traps which are so difficult to find by ordinary geologic or geophysical methods in any producing area.

Frankly speaking, Humble's Exploration Department did not anticipate the finding of any huge oil and gas reserves in California. On the other hand, because of its experience with older oil-producing areas elsewhere, the exploration group believed that there were still sufficient undiscovered reserves in California to justify a modest exploration effort and that there was considerable hope that such an enterprise could pay its way and even yield a profit if carefully planned on a long range basis. While reasonably optimistic, Humble geologists were not unduly so, because of the fact that intelligent prospecting by competent operators in California had failed to yield a major discovery for

about a ten-year period.

The decision to enter the state of California was made by Humble management early in 1948. In May of that year an office was opened in Los Angeles and staffed with three geologists, a geophysicist, a landman, and a scout. This small staff found the transition from West Texas-Gulf Coast geology to that of California difficult. "As different as night is from day," one of them commented at the time.

Consulting geologists—men with first hand knowledge of California's seven oil producing geologic basins—were engaged to orient the Company group.

Gradually, as information began to take shape, leases were bought and a few drilling commitments were undertaken on widely separate prospects.

As might be expected under the circumstances, Humble's early efforts met with failure. Dry holes were the order of the day. But such had been the experience for some years of oil companies long familiar with California geology.

As if the entry of an outside operator were the signal to kick off a new string of discoveries, the year 1948 saw California's oil industry come alive again. In the same month that Humble opened offices in Los Angeles the rich Russell Ranch field in the Cuyama Valley was discovered. Humble acquired acreage in the valley but its arrival was too late to permit participation in the discovery.

Three months later the important Guijarrel Hills field was brought in. Again Humble had not had time to obtain holdings in the area.

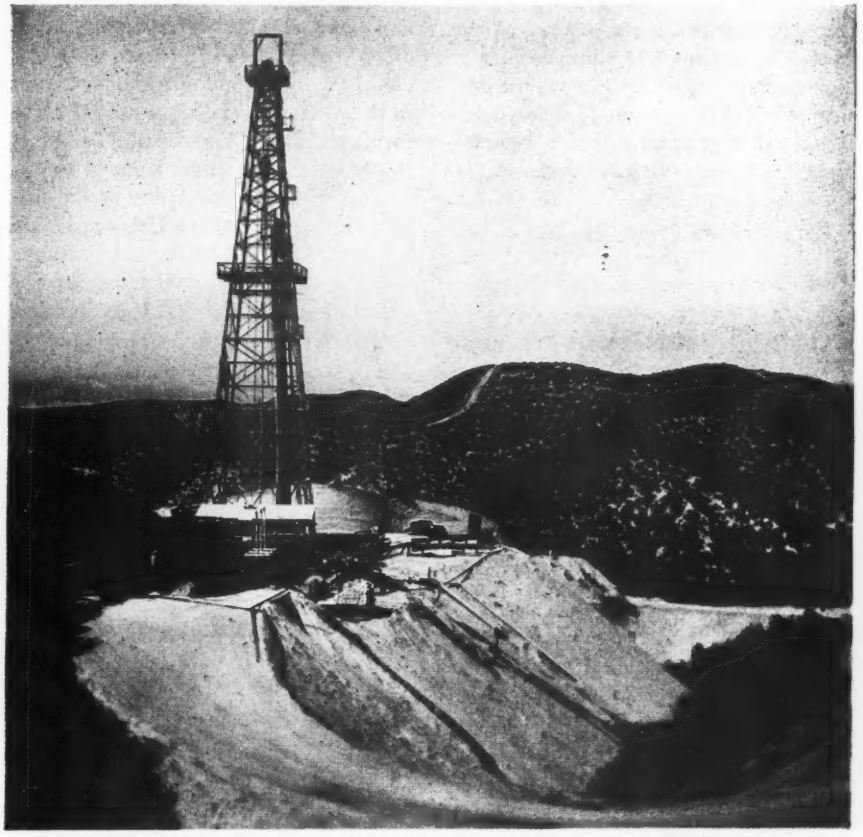
South Cuyama, probably the most important oil strike in California in 10 years, was opened within less than a year after Humble had entered California. Here, too, Humble was unsuccessful in acquiring any of the productive area.

Though a non-participant in these three major strikes, Humble had started its first drilling effort in 1948. On the Delano prospect on the eastern side of the San Joaquin Valley, Tulare County, a dry hole was the Company's only reward for 1948 efforts.

Another dry hole, a joint venture with British-American Oil Company in the Ventura Valley, was abandoned early in 1949.

In all six dry holes went on the books before the seventh discovered Lion Mountain Eocene field. The Theo Hammond No. 1, overlooking the beau-

Newhall Land and Farming Company No. 6 found new pay sand in the field and was completed as an excellent well, about 1½ miles from discovery well. Location for Newhall Land Corporation No. 1, below, was gouged out of a rough hillside.



Theo Hammond No. 1 is perched high on Lion Mountain overlooking the beautiful little valley town of Ojai. Humble has drilled other pumping wells in the field.

tiful valley town of Ojai, was brought in as a pumping well in June, 1949, but the only tangible result of further development was two additional pumping wells drilled by Humble in the same field.

The three pumpers sleepily nodding high on the hillside, are of small commercial significance, but they served to break the succession of dry holes.

On their heels, however, followed another series of misses. Ten more wells, on widely separated prospects, ended in abandonment. Then, in January, 1950, the Newhall Land and Farming Company No. 1 drilled in the dry bed of the Santa Clara river was completed as a high gas ratio oil well. This was the discovery well in the Castaic Junction field. It seemed to support a theory held by Humble geologists that a separation exists between the main anticline of the nearby producing Del Valle field and the southeasterly nose-like extension of the structure under Humble's Newhall Land and Farming Company lease.

On the strength of the discovery, No. 2 was promptly spudded one-half mile to the west. It was completed as a rich gas condensate well, but was shut in until other wells could be drilled to see if the gas sand might have an oil column at a lower structural position.

One-half mile southeast of the discovery well, the third well gave the first real clue to the importance of the field. About 100 feet of net oil sand was encountered in a new sand lying about a thousand feet above the discovery gas-condensate sand and the well was brought in as a good flowing oil producer. The next two wells, each a half mile distant, were finaled in the same sand as excellent flowing wells.

With five completions, about one-half mile apart and almost on a line through the structure, the area took on the stature of a really significant field. Then, in late August and early September of this year, No. 6 found additional new pay sands for the field. On a drill stem test it flowed at the rate of 2,300 barrels daily.

These recent wells raised the Castaic Junction field into the multimillion barrel class and seemed to justify Humble's substantial expenditures in the search for California oil.

In addition to being Humble's best and also California's best discovery for 1950, the Castaic Junction field can claim the distinction of standing almost in the shadow of the beginning of California oil history. Only a scant few miles southeastward the Pico Canyon No. 4, almost universally accepted as the first commercial oil well in California, was completed in 1876 for an initial production of 30 barrels a day. Here also the first California refinery to handle commercially produced oil was built in the same year, and three years later the state's first pipe line was laid over a distance of five miles.

Though Humble's current interest naturally lies mainly in the Castaic Junction field, exploration work and other drilling operations have been continued in other areas of the state.

Late in 1950 a joint effort with Jergins Oil Company brought about the discovery of a small shallow field, an extension of the West Newport field in the Los Angeles Basin.

Still another wildcat on an anticline in the San Emigdio Mountains at the extreme south end of the San Joaquin Valley has been developed into a pumping well. This well on the Pleito Creek structure is of doubtful commercial value, but further development may improve this estimate.

Early in August of this year a joint wildcat by Honolulu Oil Corporation and Humble discovered what appears to be a fairly important gas field near Gridley, north of Sacramento.

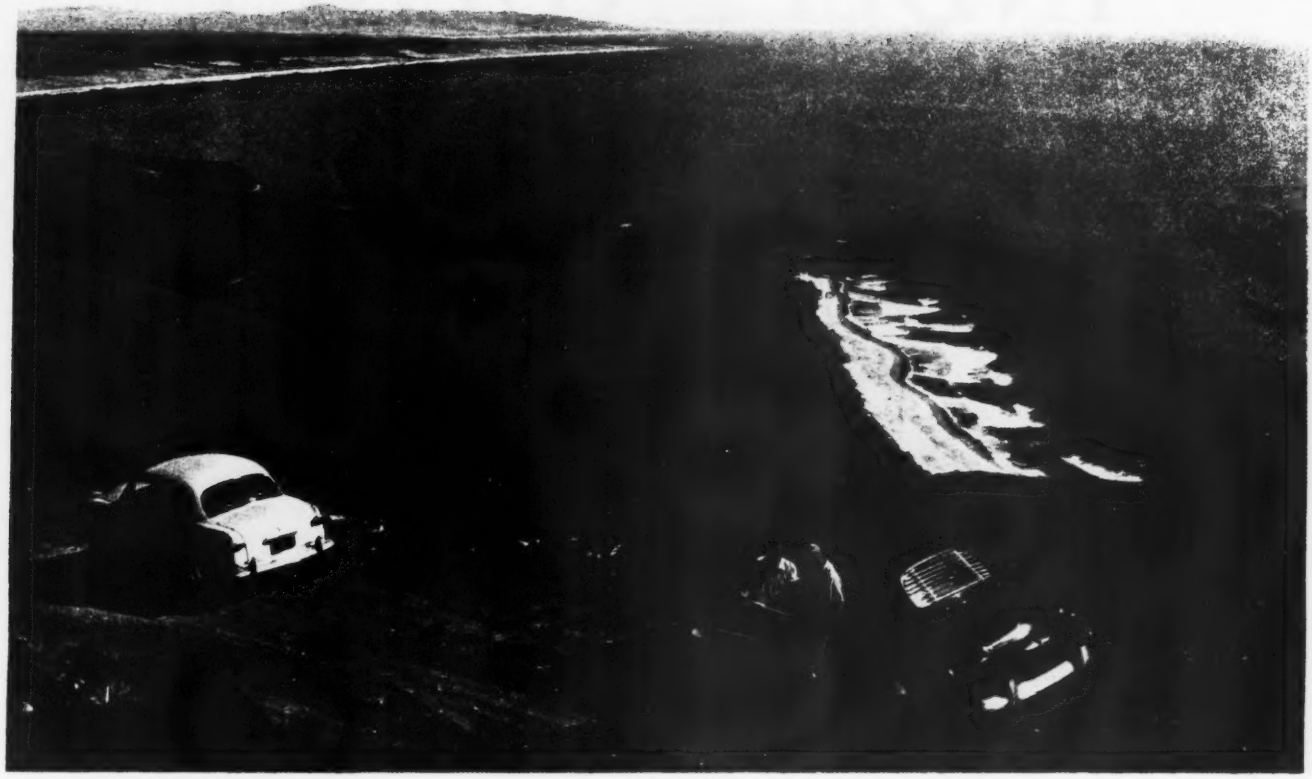
On September 10, Humble's Rosedale-Stevens No. 1, a wildcat in the south end of the San Joaquin Valley, was drill stem tested for what may be another major oil discovery. This well, located about 10 miles northwest of Bakersfield, penetrated about 60 feet of porous oil sand. Humble has this entire prospect under lease.

Thus, within a period of three and one-half years after entering the state of California, Humble has drilled 37 wells; has found one and probably two major oil fields and two smaller ones. Joint efforts with others include the drilling of 16 wells, of which one has found a small oil field and another a fairly good gas field.

Humble's present daily production in California is about 1,000 barrels. Personnel in the Los Angeles office has been expanded from the original seven in 1948 to 52.

In addition to the drilling and producing operations, exploration work is being continued. Twelve geologists, five geophysicists, three landmen, three draftsmen, and one scout have combined with one contract seismograph crew, one contract gravity crew, and one Company gravity crew to carry on this expanding work.

Exploration people firmly believe that good luck is an important factor in any exploration program, no matter how carefully and scientifically it may be planned. There are so many unknown factors to be dealt with in a geologic estimate of any area or locality that a correct appraisal of such factors and a proper conclusion based on them is ofttimes a fortuitous circumstance. While the recent discoveries in California have justified the belief of Humble's management that there are still oil and gas reserves to be found in California and have greatly encouraged the California personnel, who have from the beginning exhibited enthusiasm for the difficult task assigned them, all Humble people are hopeful that Lady Luck will continue to smile upon the California venture.



Party chief and operator of a gravity meter crew at a point (above) overlooking the Pacific. Below, a survey party at work on the California coast. Since entering California, Humble has found one, and probably two, major fields; two smaller ones.

INDEPENDENCE

The Athens of Early Texas

Almost hidden among the green hills northeast of Brenham, the little village of Independence passes its days in tranquil peace. It is a place unnoticed, unsung, and unmindful of the troubled world around it. All but history has passed it by.

There was a time, before the railroad and the paved highway, when Independence did not lie off the beaten path. More than a hundred years ago, when giants of the young Republic strode its acres, its people figured strongly in Texas' destiny. Here was laid, in the turbulent days of early statehood, much of the foundation for Texas' greatness. During the middle 19th century, Independence was such a center of education, culture, religion, and the social graces that it was known far and wide as "The Athens of Texas." Proudly and justly it bore the title.

Founded in 1824 on land patented by Mexico to one of Austin's colonists, the village was first called Cole's Settlement. But in 1836, after the convention at nearby Washington-on-the-Brazos had declared Texas a free and sovereign Republic, a tidal wave of enthusiasm engulfed the town. While rejoicing and patriotic demonstrations were at their height, Dr. Asa Hoxie, a civic leader, moved that the name be changed to Independence. Fellow townsmen backed the motion with a boisterous cheer.

The little settlement with the defiant new name grew and prospered. During the half century that followed, Independence became home, headquarters, and gathering place for many of the great and near-great of Texas. Heroes of San Jacinto and Gettysburg built their homes there. Baylor University (for men) and Baylor College (for women) were established there, attracting prominent men of letters, medicine, and law to the community. One of the oldest Baptist churches in Texas was founded there in 1839, and numbered Sam Houston himself among its converts. The General was at that time a United States Senator and had established one of his four Texas residences at Independence. Adding to the material wealth of the community were the proud plantations that flourished at Independence and in the nearby Brazos bottomlands, where the soil was rich and Cotton was King. Those were busy and productive days for the place that assumed a position of acknowledged leadership in Texas affairs.

With the removal of Baylor University to Waco and Baylor College to Belton in the 1880's, the town's star began to wane. It was not in the course of future events for Independence to hold the reins of leadership, and others came forward to take its place. But the glory that was Independence is not forgotten. Crossing and recrossing the pages of history are the names of the stalwart breed that lived, worked, and worshipped there. They have long since passed from the scene, but many of the places that gave them shelter still remain, mindful of a time when Texans struggled here against long odds for a place in the sun.

On these pages, Artist E. M. Schiwetz presents some of those places as they are today.

Ruins of Old Baylor, in a state of dignified decay, rise like a Texas Acropolis on a hilltop overlooking Independence.

Baylor was chartered in 1845. Its first president, Dr. Harry L. Graves, was succeeded by Dr. Rufus C. Burleson in 1851. Dr. Burleson left Independence ten years later to found Waco University. This school was merged with Baylor University at Waco in 1886, with Dr. Burleson as first president.

Baylor College for Women, which later became Mary Hardin-Baylor College, was moved to Belton about the same time the men's school was moved to Waco. Transfer of the two schools marked the beginning of the end for Independence.

The Hoxie House, only a short distance from the Baylor ruins, is a splendid old survivor of earliest days at Independence. Built more than a hundred years ago, it was the home of Dr. Asa Hoxie, who proposed the name of Independence for Cole's Settlement. During his days as president of Baylor, Dr. Harry L. Graves is said to have made his home at the Hoxie House.

A distinguished friend and neighbor who made his home just across the street from the Hoxie's was General Sam Houston. Nothing remains today of Houston's home there, but a stone marks the site.

Dr. Hoxie was host to many of the leading figures of that time, and his home was one of their favorite rendezvous. The Hoxie living room, paneled with cedar by a French cabinetmaker, was one of the showplaces of the state. Some 20 or 30 years ago, the superb craftsmanship of that paneling is said to have caught the eye of a visiting architect, who bought it, had it dismantled, and took it home with him.

OLD BAYLOR COLLEGE
INDEPENDENCE TEX

THE HOXIE HOUSE
INDEPENDENCE, TEX

The Robertson House stands isolated and almost aloof from the rest of the village. It was built in 1845 by Jerome B. Robertson, a man who lived up to his warlike middle name (the B. was for Bonaparte).

A Kentuckian by birth, Robertson had just graduated from medical college when news of the fighting in Texas reached his ears. Here was a matter that appealed to his adventurous spirit. Raising a company of volunteers as eager to fight as he, the young Captain began the long march to Houston's aid. He and his men arrived just a bit too late for action at San Jacinto, but remained in the Army of the Republic until it was mustered out in 1837.

There was plenty of work for a young doctor in Texas, and Robertson hung out his shingle at Washington-on-the-Brazos, later moving to Independence for its educational advantages. There was a time for fighting, too, and the dashing doctor made a name for himself as an Indian fighter and in the campaign against Woll in 1842. Later, he entered politics and served in both houses of the Texas Legislature.

In 1861, Robertson was a member of the convention that passed the ordinance of secession. He entered the Confederate Army as an infantry captain, and passed through successive promotions to Colonel of the Fifth Texas Regiment attached to Hood's Brigade. After the terrible losses of Confederate officers at Sharpsburg, Robertson was promoted to Brigadier General, succeeding John Bell Hood as commander of the famous Texas Brigade. (In the same general orders, Hood became a Major General). Robertson took part in more than 40 battles during the war, and was wounded three times, once during the bitter and decisive fighting at Gettysburg.

After Appomattox, Robertson served his adopted state with distinction in politics and industry. He died in 1891.

Independence Baptist Church, with its graceful bell tower standing nearby, nestles comfortably in a little clump of trees below the ruins of Baylor. It was here, one day in 1854, that Mrs. Sam Houston had her fondest hope come true. On that occasion, she saw her famous husband baptized by Dr. R. C. Burleson in the waters of Rocky Creek, near the little church. Afterward, with dry humor, General Houston remarked that "his pocketbook had been baptized, too"—for he pledged himself to pay half the minister's salary.

The original church was built of adobe in 1839, and was one of the oldest Baptist churches in Texas. The present church was built of stone in 1872, after the old one burned.

In the bell tower hangs a bell cast from the family silverware of Mrs. Nancy Lea, mother-in-law of Sam Houston. Mrs. Lea and her daughter were vigorously active in church and Baylor affairs. Each summer, they would gather and dry enough fruit to serve school tables during the winter.

It was Mrs. Lea's wish that she be buried within sound of the church bell. Today, she and her daughter and two faithful old servants sleep in a family burial plot just across the road from the bell tower.

The Lea House. Mrs. Nancy Lea insisted that Sam Houston come to her home at Marion, Alabama, to marry Margaret Lea. Later, however, Mrs. Lea moved to Independence to be near her daughter.

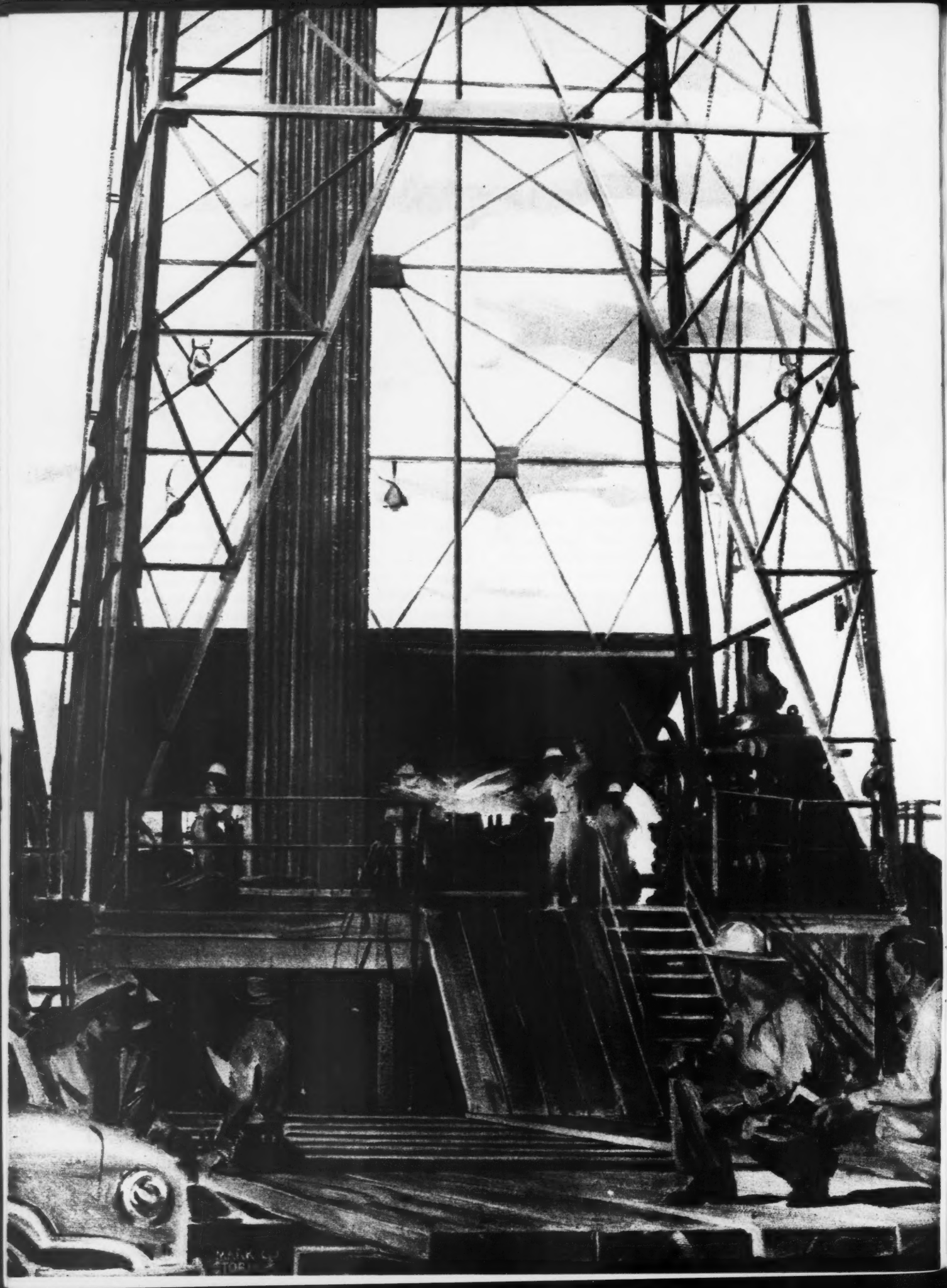
The Lea House at Independence was a social center for Baylor students, and gave shelter to more than one ministerial student who needed help in getting through school. For a time in the 1840's, the house was headquarters for a visiting representative of the Queen of England.

Mrs. Houston took up residence at the Lea House after her husband died. Her oldest daughter, Nannie, was married in the house; Mrs. Houston died there in 1867.

The Anson Jones House, a story-and-a-half structure with hand-hewn timbers and a wide center hall, has been called "The Last White House of the Republic." It was moved after the Texas Centennial of 1836 to its present location in the State Park at Washington-on-the-Brazos. Jones, last President of the Texas Republic, originally built his house a short distance from Independence, on the plantation where he lived until his death in 1858.

The Toalson House, now a private residence, dates from the pre-Republic days of Texas. Originally built by the Mexican Government in 1835, it was used by the Mexicans as a jail. Its two-foot-thick adobe walls have resisted the ravages of time; no one would guess its age today. Architecturally, it stands alone at Independence, the single evidence of Spanish influence in the midst of plantation styles and early Texana.

The Seward House, about one mile from Independence on a side road, nears its hundredth birthday. Built by John Hoblett Seward in 1855, the two-story house is a striking example of the plantation architecture of that period. It is built of hand-sawed cedar. Slaves, using logs for rollers, brought the house to its present location. The ruins of old slave quarters, water wells, wagons, surreys, and other accoutrements of the old Southern plantation are nearby.



Making up the drill stem test tool is a job for early morning hours before daylight, when the test will be made. From the outside, the tool looks like ordinary pipe, but inside each section are intricate valves, other devices. At right, hoisting the tool.

A WILDCAT SHOWS ITS SPOTS

What's down there, a mile below?
Drill stem tests often help answer the question

SEEN from afar, its derrick lights a-twinkle, the rig might have been a masted ship, becalmed on a black sea of night. Closer range dispelled that illusion, bringing on the true forms and familiar sounds of a drilling rig at work.

The drawworks rumbled heavily, its powerful forces docile under the touch of a practiced hand. Steel clanked on steel, and echoes rang through the hot coastal night as the well disgorged its tubing. Off to one side, boiler steam hissed skyward, tracing ghostly patterns against the gloom of midnight.

While the rest of the prairie slept, Rig No. 3 was getting ready for a *drill stem test.*

A special tool is used to make this test; a tool that isolates one section of the hole from other formations and from the mud column above. When the tool is opened, whatever is in the formation being tested enters the tool and rises up through the drill stem (thus the term "drill stem test") or tubing. It may be oil, gas, salt water, or a combination of them. Sometimes, there is very little fluid in the rock and the nature of the rock itself is such that nothing comes up. In this case, the test is written off as a dry run, but the formation may not necessarily be condemned. A drill stem test, in short, is simply a way of making a temporary well completion, "to see what's down there."

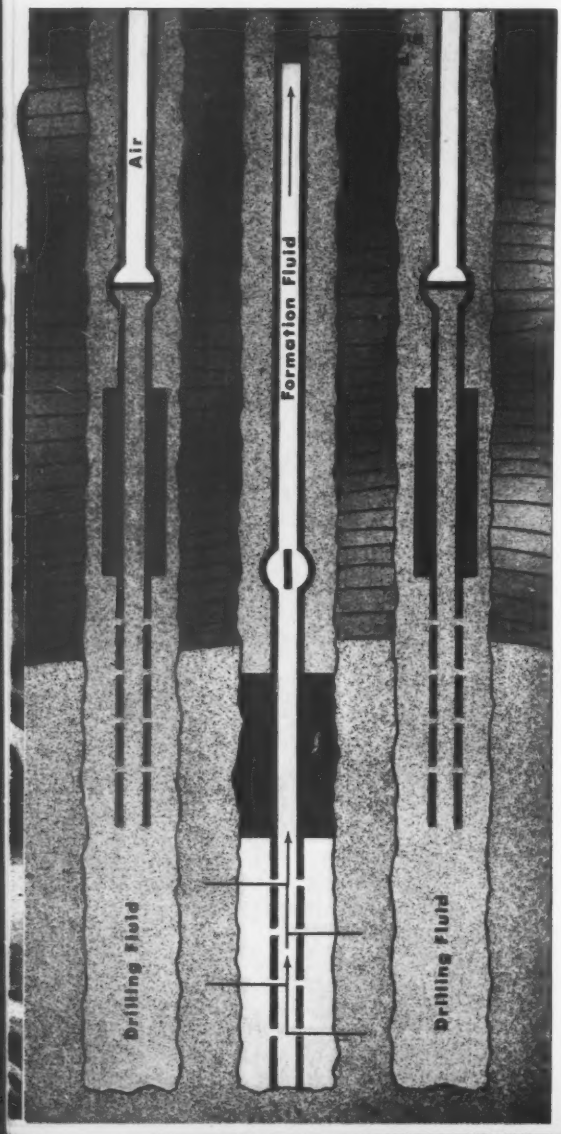
The wildcat being drilled by Rig No. 3 would soon get a chance to show its spots. Nearly a mile below lay a thin, four-foot section of sand. What it held was still a mystery, and an intriguing one. Was there oil in it? Cores, and some wavy lines on the electric log, said "Maybe."

But Humble wasn't placing heavy bets with nothing but a "Maybe" answer to go on. The drill stem test would help change that to a "Yes" or "No" in short order. Before the next sun was high, that layer of sand would give up its secrets.

Making ready for the test, casing had been perforated with bullets from a special gun that was lowered into the well and fired precisely opposite the four-foot sand. Soon the test tool would be put together and run into the hole down to the gun perforations. That done, the crew would wait for daylight to open the test tool and let the flow begin. Such tests often bring up gas, and

At left, an artist captures that dramatic moment in a drill stem test when the first joint of liquid-filled pipe is broken open. Landowner, crewmen, engineers, and others look on with rapt interest, hoping it will be oil.

Going in the hole with the drill stem test tool. Rings on the tool are part of the packer, made of hard rubber which expands in hole and seals it off. At right, tool is down to desired spot, and a valve manifold is put on to check on whatever comes to surface.



the thought of an electric bulb breaking in a gas-filled area is an unpleasant thing to contemplate. For safety's sake, Humble customarily runs its drill stem tests during daylight hours.

By 2:00 a.m., Rig No. 3 was "out of the hole," with all tubing neatly racked inside the derrick. Now the service man began to make up his test tool. It was not one piece, but a series of mechanisms which had to be screwed together until it made up one tool, 30 or 40 feet long.

At a casual glance, the test tool, when made up, looked like an ordinary piece of pipe. But that look was deceiving. Each section held some intricate arrangement of valves, pressure recorders, slots, chokes, or other complicated devices—each one precision-made, and each designed to do some particular job at precisely the right moment.

Finally, the tool was ready. Crewmen hoisted it to the derrick floor and attached it to a joint of tubing. Down into the hole it went; gingerly at first, then more rapidly. The second phase of a "round trip" had begun. Stand by stand, tubing left its resting place inside the derrick and joined its companions on the downward march, thrusting toward the target almost a mile below.

A pale crescent moon hung low on the horizon, casting feeble light over the derrick floor as the last of the tubing disappeared into the hole. Rig noises—clanking, grinding, and pounding of engine and drawworks—stopped, leaving an almost ominous silence about the rig. Crewmen, after a smoke in a safety zone, occupied themselves with catching up on "loose ends" that had to be looked after while major chores were at a standstill. Sunrise was still a couple of hours away.

The toolpusher beat daylight to the rig by a full hour. He and his crews had brought in many a well, and their share of dry holes, but they never tired of the suspense and drama that goes with a drill stem test. The 'pusher spent his first few minutes in casual greeting, then began asking questions and making observations. From time to time, as the minutes passed, he would glance at his watch, or cock his head nervously toward the east. The whole crew was ready to "see what she would do."

Dawn came at last, full and clear, and the toolpusher broke the tenseness of waiting with the terse order: "Okay,

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Drill stem test is explained in principle by artist's schematic sketch at left. First, tool goes in hole to desired depth, where it is opened (center drawing) and formation fluids flow toward surface. Right drawing shows tool being removed following the test.

Bubbling merrily under air pressure, this pail of water helps tell what is going on below. Pressure of formation fluids rising up tubing pushes air before it. At right, engineer and service man take a look at chart on which formation pressure is recorded.

boys; let's put 'em out." He nodded toward the light switch. Out went the lights. Then came his second order, a bit later, just as the sun's red rim pushed up over the horizon. "Open her up."

A signal from the service man, in charge during the test, and the driller took several cautious turns clockwise on the rotary. On the sixth turn, he stopped — then dropped the tubing sharply downward, a foot or two. The tool was open.

One quick look at the weight indicator, followed by a glance at the mud level, told the service man what he wanted to know. The tool had opened properly and was holding fast, sealing off the area to be tested.

Deep down in the earth, forces of nature began to work—surging into the test tool and pushing something (who knew what?) toward the surface.

The first chapter of the mystery was written in bubbles—air bubbles from a hose attached to a valve assembly at the top of the tubing. Whatever was on its way to the top was pushing air before it; air from inside the tubing. Bubbles from the pail of water that held the air hose were feeble at first, then picked up briskly, then turned the pail into a frothy cauldron.

An engineer stood near the service man, exchanging notes, then turned for a word with the geologist, who had arrived only moments ago. There was no mistaking the excitement. The air itself was charged with suspense. Some tried, but most failed, to be casual.

Minutes ticked on. The tool had been open for half an hour when bubbling in the pail died down, almost disappeared. This might be bad; there ought to be more pressure, if the well was to be a producer!

A valve on the assembly at the top of the tubing was cracked open, and the toolpusher stepped up for a furtive sniff. "No gas there," he commented. "But you never can tell this early; I've been fooled before," he added, as if to cheer himself and the others around him. "Keep her open another 30 minutes."

Those 30 minutes seemed like a day. At last came the order: "Close her in."

The tool was closed by rotating the tubing to the right. This shut off flow into the tool and allowed formation pressure to build back up during the next 30 minutes and be measured by a pressure recorder. Then came the order, "Bring her up, and let's see what we've got."

Rapidly and smoothly, with splendid teamwork, tubing was pulled from the hole. Now and then, a crewman would rap tentatively with a hammer on the side of a tubing joint. He had an ear cocked for the "dead" sound that would tell of liquid inside the pipe. But only a metallic ring rewarded his taps.

Then it came. A dull "thock" instead of the hollow clang. This was it! This joint was full—of something.

Every man drew nearer, each unmindful of the drenching he might get if he ventured too close. Slowly . . . cautiously . . . carefully, the tubing was unscrewed. Suddenly, the threads jiggled free and a dark liquid spewed in a geyser from the connection. Someone leaped up, caught a handful, and tasted the unknown mixture. Everyone waited, holding breath for the verdict.

"Salt water!"

For one bitter moment, one could almost feel the tension drop away. It was like a partisan football crowd when the game ends with the home team on the one-yard line.

But this game wasn't quite over. "Too bad," muttered the toolpusher. "But we're not through here. There are some more sands down there that we want to look at. We'll try again."

That's the way it is in the oil business. Sometimes you hit; sometimes you don't. When you don't, the only thing to do is "try again."

Except for engineers' and geologists' examinations of the salt water and pressure records, this test was over. But later—perhaps tomorrow, perhaps next week—this wildcat would get another chance to show its spots.

Parallel parking a large transport van used for carrying oil products isn't exactly like parking the family car, and that's why it's one of the problems in the Sales Department's truck "roadeos." Driver above did the job neatly.

Truck "Roadeo" Spotlights Driving Safety

It Takes Plenty of Skill To Put a Big Truck Through Its Paces, But These Exhibitions Show That It's All a Matter of Training

A rodeo usually means spills for the riders and thrills for the spectators, but the truck "roadeos" Humble sponsors for Sales Department drivers are just the opposite.

Emphasis is strictly on safety. In fact, the annual "roadeo" is the result of interest in safety developed among truck drivers by the Company driver training program started in 1948.

Drivers in the roadeos bring their vehicles through S-turns, parallel park them along carefully drawn lines, back them into incredibly small alleys, and perform other tests. They are graded on the skill with which they master the problems and the time it takes to do so.

Only truck drivers who have at least a year's accident-free record in the Sales Department are eligible. Elimination roadeos are held first in the sales districts; then in the divisions. Division winners compete in the final roadeo.

"In these truck roadeos, our drivers have a real goal—to improve driving skill and thereby eliminate accidents on the road," said R. B. Roaper, Humble's chief safety engineer. "The contests have stirred up a gratifying amount of interest in other departments as well as in Sales."

The big trucks rumbling around turns make an exciting spectacle; but most astounding is the easy way their operators slide them into difficult spots. There are two separate classes in each roadeo: one for drivers of stake trucks; the other for drivers of the larger tank trucks and transport vans. A winner is chosen in each class.

The state final roadeo this year was held on August 27 in the parking lot at Public School Stadium in Houston. Families of the drivers joined Humble sales and safety personnel in the bleachers to watch intently the show of skill. Guests included operators of other truck fleets, state and local police officers, and Army student drivers with their instructors from Ellington Air Force Base, near Houston.

H. W. Ferguson, Vice President and Director in Charge of Refining and Sales, praised the safety-consciousness of Sales Department drivers in presenting engraved silver pitchers to the first-place winners. They were Ernest W. O'Brien of the Houston Bulk Station in the stake truck class, and Paul N. Atherton of the North Texas Terminal in Dallas in the tank truck class.

Elwood W. Zunker of the San Antonio Terminal came in only one point

The diminishing alley problem involves driving between posts which get closer and closer together down the lane.

Backing into a narrow space simulates the task of backing up to a loading dock, frequently a truck-driving problem.

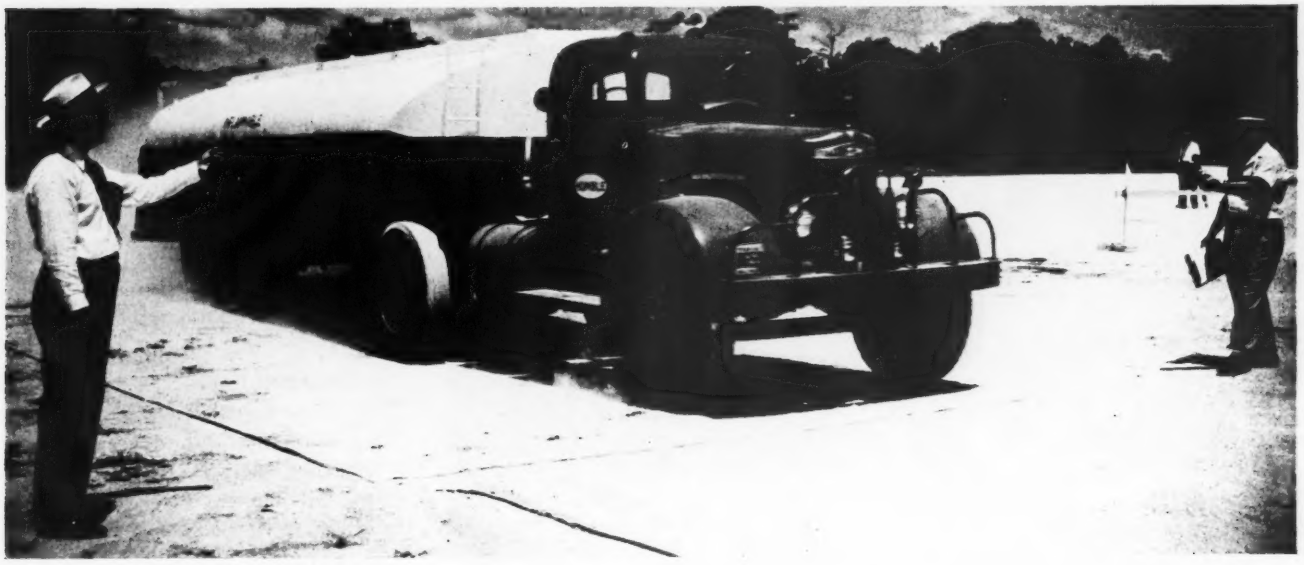
out of a possible 300 behind O'Brien in the stake truck class. Atherton's runner-up was Edward W. Hardie, also of the San Antonio Terminal.

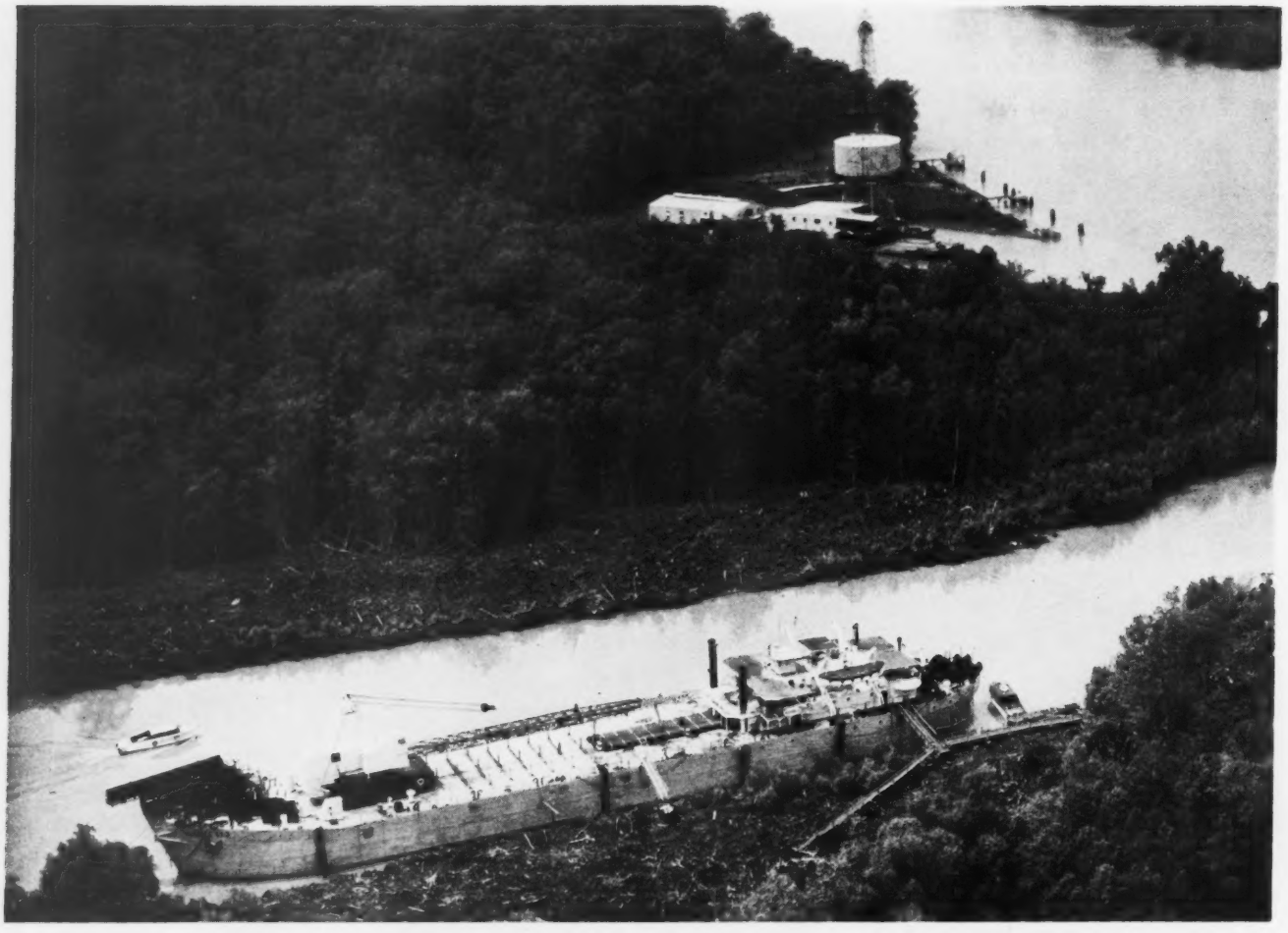
Judges at the final roadeo were Humble safety engineers, representatives of the State Highway Department, and a truck fleet executive. Before the driving contest, entrants were given a written examination on safe driving procedures and a personal appearance test.

All the drivers, like other employees who operate Company vehicles, had taken Humble's Driver Education Course, part of a continuous Company effort to promote safety in every phase of operations.

Each contestant's performance is timed by judges, below, since speed as well as safety counts in choosing winners.

Prize-winning driver J. E. Daley, Jr., is congratulated by H. W. Ferguson, Director in Charge of Refining and Sales.





Moored in a canal dredged out of the swampy forest miles from the open sea, a converted LST pinch-hits as a quarterboat for Humble crews working in Duck Lake area, Southern Louisiana. Barge rig in background is drilling for Humble under contract.

LST

UP THE BAYOU

LOOKING as out of place as a stranded whale, the converted LST pictured above is moored in a canal dredged out of the swampy forests of the Atchafalaya river basin in Southern Louisiana. In that incongruous setting, the vessel is being used as a houseboat for Humble crews working in the Duck Lake area some 12 miles inland from Morgan City.

Use of an LST for inland operations is unique. Normally, field crews in this waterlogged area of Louisiana live aboard *quarterboats* — shallow-draft barges fitted out with sleeping, eating and recreation facilities.

The natural habitat of the converted LST, on the other hand, is the open sea, where it serves as houseboat-tender for offshore drilling crews. Several of these vessels had been left idle by the temporary suspension of Humble's offshore drilling operations in the Gulf of Mexico.

Transplanting the LST from the waters of the Gulf to the inland location was an emergency measure. The Company needed another quarterboat and none was available. Then somebody thought of the idle converted LST. The ship couldn't be used in the shallow waterways of the marshlands, but a hasty check of the Duck Lake area showed that the channels there were deep enough.

It was a relatively simple matter to tow the LST from Morgan City up the Atchafalaya river to Six Mile Lake, then up Bayou Boutte to the Duck Lake site. There, moored in a small cut dredged from the side of a canal, the LST serves as a quarterboat for the entire Duck Lake field.

By using the LST for inland operations, Humble saved not only the cost of constructing a new quarterboat, but also the expense of storing the idle LST.

SINGLE HULL DRILLING BARGE

This Slender Newcomer to Humble's Drilling Fleet Has Several Advantages over Old-Style Submersible Barges

A NEW KIND of drilling barge has joined the Humble fleet and is now busily at work in the shallow waters of Aransas Bay.

From the air, the new craft resembles a baby flattop which turned up prematurely and got crowned with a steel-ribbed dunce cap for being so brash. But to an angler scudding by in a boat, the squat vessel aground in the bay presents a different look—that of an oilfield in miniature.

The unusual thing about this new barge—Humble 117 by name—is its single hull. Hitherto, all of the Company's submersible drilling barges have been of the twin-hull type.

Compact and versatile, the newcomer has such a narrow beam (38 feet instead of the usual 54) that it can slip into waterways which would be closed to twin-hull barges unless they dismantled and entered single-file. And instead of requiring a custom-built rig, it can be equipped with almost any standard mechanical land drilling rig or workover rig. These two factors mean big savings in both time and money.

The new barge is 185 feet long from stem to stern. Stretching 87 feet back from the bow is an eight-foot-wide slot—there to permit the barge to back off from the well once drilling is completed.

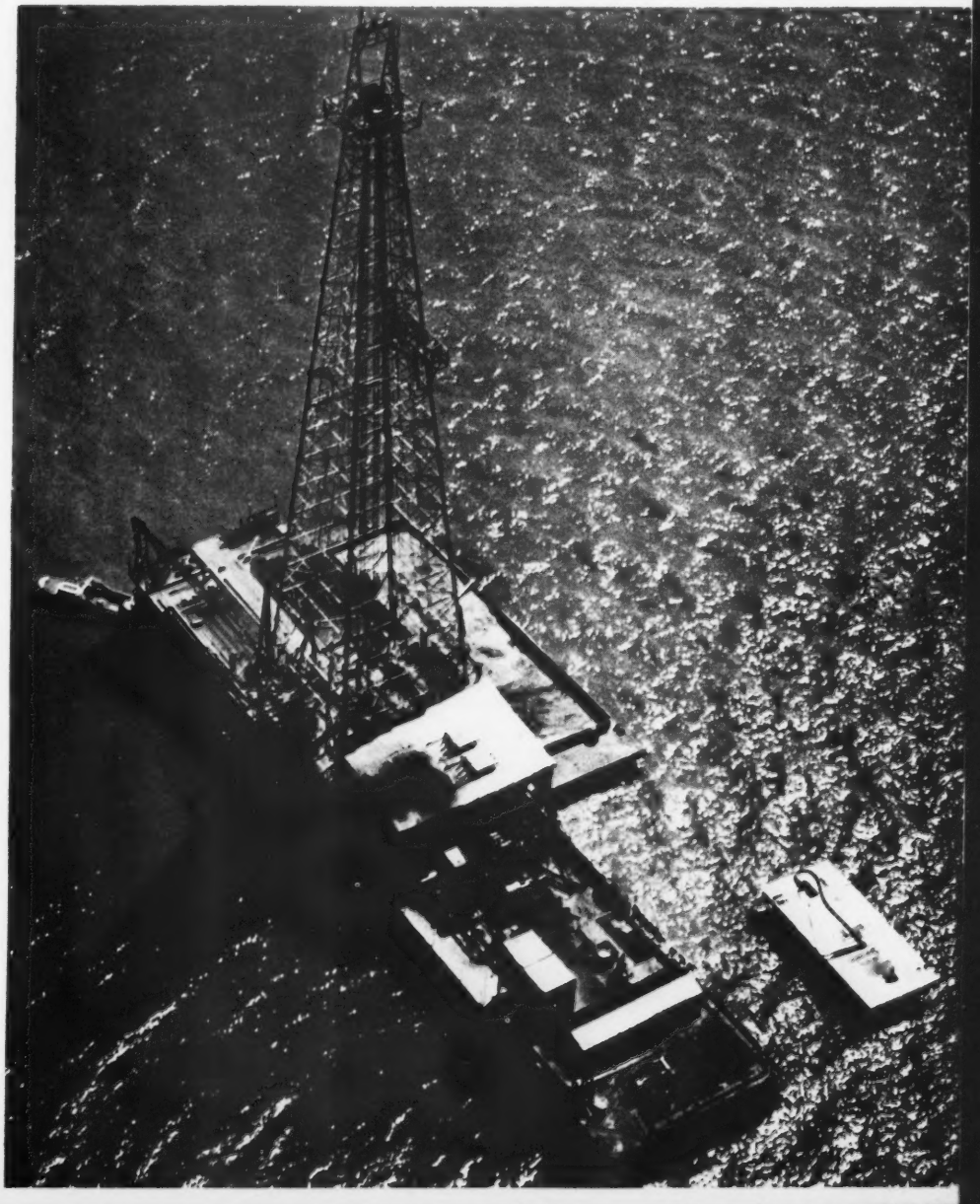
Almost amidships, over the aft end of the slot, is a derrick sub-structure built to carry a million pound load. This has nearly 16 feet of headroom between main deck and derrick floor—enough to accommodate the three blowout preventers required in marine operations.

Diesel-powered, the barge is designed for drilling wells as deep as 15,000 feet. Two diesel fuel tanks and sizeable facilities for mud storage help make the rig self-sufficient for days at a time.

As on every drilling barge, special equipment is used to prevent pollution. An anti-contamination gate, which operates like an overhead garage door, shuts in the well end of the slot. Any oil around the wellhead is skimmed from the water at regular intervals. As required in this area, cuttings are dumped into a small barge and later moved to unrestricted places.

Two other single-hull barges are scheduled for early delivery. Both will be used in Humble's Louisiana operations.

With these new additions to its marine fleet, Humble will find its movements in the constricted waterways of the Gulf Coast greatly expedited. In channels where old-type barges had to be squeezed in with a shoehorn, there will now be clear sailing and, eventually, more economical drilling.



On location in the glittering waters of Aransas Bay, Humble's newest drilling barge looks domino-slim from the air.

They Have Retired

Of 14 new annuitants, all but one have been with the Company for more than 20 years

FOURTEEN employees have retired since the last issue of THE HUMBLE WAY. All but one of them have been with the Company more than 20 years. Among this group, Terry G. Roach, superintendent of McCamey production district, has the longest career with Humble with his 32 years' service; holder of the shortest service period is Charles F. Keyes, toolpusher at Scott & Hopper District, with nearly 18 years. London production district led other areas in retirements for the period with six of its long-time employees, all with more than twenty-five years' service, joining Humble annuitants.

Humble Pipe Line Company—Pete Shults, engineer at Foster Station, retired September 8 after 25 years' service. Mr. Shults started to work for the Company as a laborer; his entire service has been in West Texas and North Texas divisions. His special interests include fishing and hunting. He owns a home in Odessa where he plans to raise chickens and garden.

Elkanah H. Mahan, engineer at Palestine Station, retired October 15 after more than 23 years' service. Mr. Mahan was employed at May, Texas as a connection foreman, and he later worked as assistant foreman, oiler, stock gauger, and engineer, he includes among his special interests raising chickens and rabbits. On retirement, he intends to manage some property in Irving, Texas.

Virgil P. Massey, connection foreman at Baytown, retired October 8 after more than 31 years' service. He started to work for Humble at Goose Creek as a laborer; he later worked in a variety of pipe line jobs at Pierce Junction and Baytown. Mr. Massey owns his home in Baytown, and during retirement, he plans to spend some of his time raising flowers there.

Production Department—Walter R. Carrington, lease pumper-gauger at London, retired September 20 after more than 30 years' service. He was employed at Cisco as a hammer driver and later worked as blacksmith helper, engineer machinist, roustabout, and pumper. During retirement Mr. Carrington plans to raise flowers, garden, and chickens.

George L. Humphries, electrician first at London, retired October 10 after almost 28 years' service. Mr. Humphries began his service as a groundman. He worked for the Company at Powell, London, Conroe, and Roanoke. On June 30, 1935, he moved to London and remained there until his retirement. His hobbies are photography and traveling.

Charles F. Keyes, toolpusher at Scott & Hopper District, retired October 2 after almost 18 years' service. Mr. Keyes was employed as a driller and has spent all of his service with the Company in drilling operations. As a driller, Mr. Keyes helped drill discovery wells at Friendswood, Stratton and Seeligson fields. An excellent rifleman, he is fond of hunting; he also includes fishing among his hobbies. He has property near Fredericksburg, Texas, where he plans to move in the near future and enjoy his hobbies more.

Nolan R. Lewis, pumper helper at London, retired September 25 after more than 26 years' service. He came to work for the Company at Smackover as a roustabout and later worked as truck driver, watchman, pumper, and plumber helper. He includes among his hobbies whittling, hunting, and fishing. On retirement Mr. Lewis plans to raise fruit trees and garden at Booneville, Arkansas.

James F. Richard, roustabout gangpusher at Raccoon Bend, retired August 31 after more than 31 years' service. Mr. Richards started to work for Humble as a rotary helper at West

Employees Recently Called to Military Service

AIR FORCE

Baylor, Carroll Lee	Imogene, Production
Elskes, Sidney John	Baytown Refinery
Hegar, Daniel Theodore	Geophysics Research, Houston
Knox, Shelby Ray	Baytown Refinery
Leeman, Sam Prescott	East Texas Division Office, Tyler
Lovett, John Thomas	Baytown Refinery
Simmons, Marvin Gene	Katy Gas Cycling Plant
Tynan, Robert Emmet	Land, Records, and Rentals, Houston

ARMY

Batton, Burras Alex, Jr.	Exploration-Geophysics

NAVY

Allen, James Gordon	Production Accounting, Houston
Jackson, John G., Jr.	Stratton, Production
Morris, Bertrand Dennis, Jr.	Lovell Lake, Production
Reed, John Alden, II	Winters, Production

COAST GUARD

Hamor, Charles Clark	Sales-Construction Engineering, Houston

Columbia. He later worked at Wortham, Mykawa, and Raccoon Bend. He will live at Bellville where he plans to enjoy his hobbies, hunting and fishing.

Terry G. Roach, district superintendent at McCamey District, retired September 10 after 32 years' service. Mr. Roach began his career with Humble as a roustabout. He has served in the Gulf Coast, North Texas, Arkansas, and West Texas divisions. During retirement he will live in Austin.

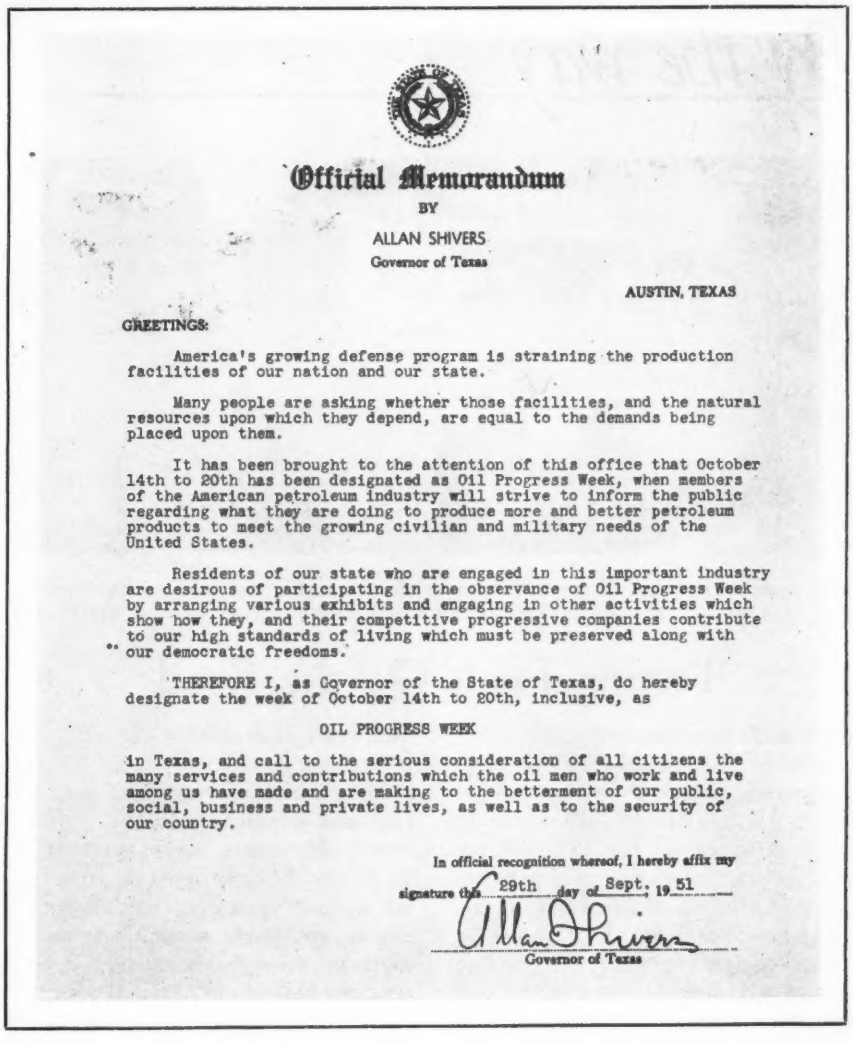
Elijah D. Scott, roustabout at Pampa District, retired September 19 after more than 21 years' service. All of his service with the Company has been spent at Pampa as a roustabout except for a little more than a year that he worked as a watchman and crum boss. His special interests include his grandchildren and work in his yard.

Ellis W. Smith, lease pumper-gauger at London, retired October 10 after more than 31 years' service. Mr. Smith was employed at Ranger as a pumper. In 1927 he moved to Eastland; in 1931 he transferred to London where he worked until his retirement. His hobby is woodworking. On retirement he will farm at Abilene, Texas.

Wiley F. Sutton, farm boss at London, retired October 8 after almost 29 years' service. He was employed at Mexia as a roustabout. Later, he was stationed at Powell, Wortham, Gladewater, and London. During his service he worked as a roustabout, roustabout gangpusher, fireman, farm boss, assistant district superintendent, and superintendent. He plans to raise whiteface cattle, do truck farming, and go fishing.

Edward H. Trull, lease pumper-gauger at London, retired September 8 after almost 29 years' service. Mr. Trull went to work for the Company as a fireman at Sour Lake. He worked there until 1931 when he moved to London as a pumper.

Baytown Refinery—George C. Danhart, receiving and shipping clerk, retired October 14 after 28 years' service. Mr. Danhart came to Baytown Refinery in 1937 from the Standard Oil Company (N. J.) refinery at Parkersburg, West Virginia. Notable achievements in his hobby, traveling, include visits to Canada, Mexico, Bermuda, and all states of the Union. During retirement he plans to reside at Baytown and spend some time traveling to further satisfy his wanderlust.



Official Memorandum

BY

ALLAN SHIVERS

Governor of Texas

AUSTIN, TEXAS

GREETINGS:

America's growing defense program is straining the production facilities of our nation and our state.

Many people are asking whether those facilities, and the natural resources upon which they depend, are equal to the demands being placed upon them.

It has been brought to the attention of this office that October 14th to 20th has been designated as Oil Progress Week, when members of the American petroleum industry will strive to inform the public regarding what they are doing to produce more and better petroleum products to meet the growing civilian and military needs of the United States.

Residents of our state who are engaged in this important industry are desirous of participating in the observance of Oil Progress Week by arranging various exhibits and engaging in other activities which show how they, and their competitive progressive companies contribute to our high standards of living which must be preserved along with our democratic freedoms.

THEREFORE I, as Governor of the State of Texas, do hereby designate the week of October 14th to 20th, inclusive, as

OIL PROGRESS WEEK

in Texas, and call to the serious consideration of all citizens the many services and contributions which the oil men who work and live among us have made and are making to the betterment of our public, social, business and private lives, as well as to the security of our country.

In official recognition whereof, I hereby affix my signature this 29th day of Sept., 19 51

Allan Shivers

Governor of Texas

Deaths

Nine active employees and six annuitants have died since the last issue of THE HUMBLE WAY.

Active employees who have died are: Arthur J. Appelt, 56, district gauger at Alice District, on September 6; Gaston Clement, 50, pipe fitter first at Baytown Refinery, on August 10; Richard L. Creamer, 29, rotary helper at Wink District, on September 1; Luther E. Grissom, 58, secretary and superintendent of oil movement in Crude Oil Dispatching in the Houston office, on September 15; Thomas L. Henninger, 49, welder first at Baytown Refinery, on August 8; Lionel J. Nores, 47, draftsman Geologic, Lease, and Scouting Division in Florida, on September 4; Don E. Toler, 21, rotary helper at Galveston Bay, on August 29; Frank B. Walsh, 55, safety engineer in Employee Relations Department in the Southwest Texas Division, on August 12; Preston Williams, 30, laborer at Baytown Refinery, on August 9.

Annuitants: George H. O'Brien, 72, water pumper at Baytown Refinery before his retirement, died on August 15; Andy J. Newman, 56, helper first at Baytown Refinery before his retirement, died on September 2; John E. Smith, 59, handy repairman helper at Baytown Refinery before his retirement, died on August 16; Jeuel E. Stewart, 71, building engineer in the Houston Office before his retirement, died on August 19; Dock Taylor, 79, teamster at Baytown Refinery before his retirement, died on August 5; Thomas J. West, 66, watchman at London District before his retirement, died on August 14.

By the way . . .

This shiny new sedan is one of the specially equipped test cars which Humble uses in checking up on gasoline performance under actual driving conditions.

Testing Fuels On the Road

IT'S ALL very well to run laboratory tests to persuade an unknown fuel to give up its octane number and other secrets. A gasoline refiner needs to know those things. But how will the gasoline perform in an automobile, under actual road conditions, in a particular engine? The refiner needs to have *those* facts, too.

To find them out, Humble has equipped several popular-make cars with special instruments and devices to make road tests of fuel-performance in an engine. The cars are equipped with ten small auxiliary fuel tanks as well as the main tank to draw from, so the test car can work with 11 different gasolines on one test trip. With a flip of a switch, the operator can change from one fuel to another in a matter of seconds.

Tests are made under all sorts of road and weather conditions; in every conceivable way a car might have to be driven. The test car goes anywhere an ordinary passenger car sometimes has to go—down smooth ribbons of highway; through deserts and swamps; up steep hills in mountainous country; and along bumpy rural roads and river bottoms. And all the while, instruments are "taking the pulse"—checking temperatures and pressures, and indicating how the engine is doing on some particular brand and grade of gasoline.

When each test is completed, it's a safe bet that more is known about the performance of each fuel used.

Auxiliary tanks and instrument panel resembling that of a small plane enable Humble's Sales Technical Service to test several gasolines during any one trip.

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Published every other month for employees and stockholders

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P. O. Box 2180, Houston 1, Texas

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The Cover painting by E. M. Schiwetz is a scene at Independence, a tiny village which wears gracefully its patina of Texas history.

Precision-made tool is used in making drill stem test. (See "A Wildcat Shows Its Spots," Page 19.)

Oil Progress means more to Texans!

During Oil Progress Week, October 14–20, the United States focused its attention on the oil industry's contributions to the high American standard of living, to the nation's industrial progress, and to the national defense.

Texans know the story well: as home folks in the oil country, they share the oil industry's pride in supplying the resource that powers a major share of the country's industries, all its airplanes and automobiles, most of its ships and trains.

Texans realize, moreover, that oil's progress means even more to them than it does to many other Americans. For example, the value of the crude oil produced in Texas in 1950 was more than two billion dollars. This is not "boom money." Texas uses it to pay taxes, salaries and wages; it buys homes, groceries, light and heat; doctors collect a portion of it; landowners receive royalty and lease payments; a sizable portion of it is reinvested in the further development of the state's oil resources.

In a word, the progressive development of the petroleum resources of Texas has enormously stimulated its thriving industrial, commercial and agricultural development, and this is the *more*, the plus, that oil's progress means to Texas. Modern, efficient production practices will conserve the oil and gas resources of the state, and oil's progress will continue to mean more to Texas for many years ahead.

HUMBLE OIL & REFINING COMPANY
HUMBLE PIPE LINE COMPANY